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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,044	08/28/2003	Ikuya Yamashita	101175-00035	6945

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EXAMINER

PATEL, VINIT H

ART UNIT	PAPER NUMBER
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1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/650,044

Applicant(s)

YAMASHITA ET AL.

Examiner

Vinit H. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Response, filed August 8, 2006, with respect to the rejection(s) of claim(s) 1-6 under 35 U.S.C. 103(a) with respect to the application of Wegeng et al., US Pat. Pub. No. 2006/0045842, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. Applicant maintains that claim 1 is limited to claiming only a single reforming means or single reformer 5 (See Remarks dated August 18, 2006 at Page 6 and as disclosed in Applicant's specification, See Fig. 1, reformer 5) and as such no teaching or suggestion of a single reformer supplying hydrogen to a first and second fuel is found in Wegeng, the rejection is withdrawn with respect to Wegeng. However, upon further consideration, a new ground(s) of rejection is made as detailed below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino (JP 10-139401) in view of Fairlie et al. (WO 00/69773).

Regarding claim 1, Ogino discloses a hydrogen supply unit comprising:
a reforming means (30);

a storage means (55/92) for storing and supplying hydrogen gas from said reforming means to fuel cells (100);

said storage means (55/92) comprising a pressurization means (50) in the supply line (17, 18, 21) thereto; and

a purifying means (4) located upstream of the storage means (55/92) also located along the supply line (17, 18, 21).

Ogino fails to disclose a second line, also comprising all of the same elements of the first line so that a portion of the generated hydrogen stream is fed separately to one of the fuel cells (100).

Providing a duplicate line from the reformer (30) of Ogino, which includes the purifying means, pressurization means, and storage means, to one of the fuel cells (100) disclosed would amount to a mere duplication of parts. It has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

In addition, Fairlie et al. provides the general teaching of splitting the gas generated in a reformer 10 to various users 16, which include fuel cells, fuel cell vehicles and electrical generators (Abstract) to increase the ability to manage those unit operations for providing an effective and economic hydrogen energy distribution network (P5/L15-25). Therefore, it would have been further obvious to one of ordinary skill in the art at the time the invention was made to provide separate hydrogen feed lines to each fuel cell of Ogino in order to increase the ability to control and manage those individual fuel cells and produce cheaper hydrogen (P5/L25-29).

Regarding the recitation in claim 1 of intended use of said first and second fuel cells, it is noted that a recitation directed to the manner in which a claimed apparatus is intended to be used does not distinguish the claimed apparatus from the prior art.

Regarding claims 3 and 6, Ogino discloses all of the claim limitations as set forth above. Additionally the reference discloses the unit further comprises:

wherein storage means stores hydrogen by use of a hydrogen absorbing alloy ([0062]- [0070]); and

a remaining amount detecting means (56) for hydrogen gas stored in the storage means and a control means (60).

Regarding limitations recited in claim 5 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP §2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino (JP 10-139401) in view of Fairlie et al. (WO 00/69773) as applied to claim 3 above, and further in view of Fujitani et al. (USP 5,728,483).

Regarding claim 4, Ogino in view of Fairlie et al., discloses all of the claim limitations as set forth above. Additionally Ogino discloses that heat (from heater 95) is

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required for release of hydrogen from the hydrogen storage alloy, but the reference does not explicitly disclose that said heat is a waste heat of said reforming means or a waste heat of said first fuel cell.

Fujitani et al. teaches a high energy efficiency device wherein heat required for release of hydrogen from the hydrogen storage alloy is a waste heat of a fuel cell (Fig. 1 and C2/L3O- C3/L64).

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the waste heat of the fuel cell as a source of heat needed to release hydrogen from the hydrogen storage alloy, as taught by Fujitani et 2., in the device of Ogino, for the purpose of improving energy efficiency of the device by using heat that otherwise would be wasted.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinit H. Patel whose telephone number is (571) 272-0856. The examiner can normally be reached on 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

vhp



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